Boroditsky 2000-0578C-DIV

REMARKS

Claims 1-37 were filed in this divisional application and, by preliminary amendment, these claims were replaced with claims 38-71. By mistake, the Examiner addressed the original claims rather than the outstanding claims, and issued an Office Action on December 28, 2004.

On March 25, 2004 applicants' representative held a short telephonic interview with the Examiner, whereupon it was agreed that applicants would endeavor to respond to at least some of the Examiner's comments in connection with the original claim, insofar as the comments apply, and it was separately agreed that if a rejection of the outstanding claims will be found to be necessary, such rejection will be non-final.

At Point 1 of the Examiner's Detailed Action at page 2, the Examiner asserts applicants' term of "composite packet" is consistent with "how one of ordinary skill in the art would understand the term." While this sentence is supportive of applicants' right to use the term, it does not disclose *what the Examiner understands the term to mean.* The Examiner goes on to state that "the idea of a composite packet implies that a packet is a heterogeneous composition of its, or wavelengths, etc." At best this statement only implies that this is the Examiner's understanding of the term's meaning but, regretfully, it is not understood what the Examiner means by the term "homogeneous composition of bits." Because the Examiner's understanding is unclear, applicants respectfully decline to agree with the Examiner's characterization of the term "composite packet." Further, there Examiner states that the applicants "merely aligned packets on a unique wavelength into the same time slot" and, inexplicably, the Examiner concluded that "no patentable weight can be assigned the term 'composite packet'." Applicants respectfully traverse.

One way to view a packet is by employing the metaphor of an envelope. A collection of information is placed within an envelope, the envelope is addressed, and it is placed onto a transmission medium. Once so placed, the envelope is routed without opening it until its destination. In applicants' application there are packets, and those packets occupy time slots, and there are composite packets that also occupy time slots To apply the envelope metaphor, applicants' composite packet *is an envelope, which contains a plurality of collections of information, with each collection being characterized by a different wavelength.* There is no question but that the composite

packets in applicants' claims have patentable weight. Respectfully, they have weight at least as much as any other term. Put another way, it is respectfully submitted that if the Examiner fails to find art that uses such packets, a 35 USC 102 rejection cannot be supported and only a 35 USC 103 rejection, at best, might be available to the Examiner.

Applicants also respectfully disagree with the Examiner's remark regarding the stacker and unstacker. While it is true that these elements can be thought of as particular multiplexer and demultiplexer, respectively, they are NOT "merely a multiplexer/demultiplexer of a WDM signal." The stacker is a very particular multiplexer, where, for example, a sequence of packets that arrive at different time and have different wavelengths are not only combined but are caused to all occupy the same time interval (i.e., placed in a given time slot). The unstacker is the complement of the stacker. Again, unless the Examiner can find such devices, it is respectfully submitted that a 35 USC 102 rejection cannot be sustained and only a 35 USC 103 rejection, at best, might be available to the Examiner.

Claims 1-3 of the original set of claims were rejected under 35 USC 103 as being unpatentable over Tsushima et al, US Patent 5,600,466 in view of Chlamtac et al, "Scalable WDM Access Network Architecture Based on Photonic Slot Routing," *IEEE ACM Trans. On Networking*, IEEE Inc., NY, US Vol. 7 No. February 1999.

The Examiner asserts that Tsushima et al teach "a WDM ring and node system with a multiplicity of lasers that create packets [sic] parallel packets t different time-slots." It is true that Tsushima et al teach using a multiplicity of lasers to create signals. Indeed, in connection with FIG. 6, which was cited by the Examiner, different wavelength carrier signals are generated by lasers 6-1 through 6-4, and all are modulated by a signal in a common modulator circuit 7c. Therefore, it seems that a data packet is presented to modulator 7c, and that data packet is modulated by the carriers, resulting in a plurality of *optical* packets at the output of modulation 7c, each at a different wavelength.

In contradistinction, at least some of the independent claims (e.g., claim 38) call for a single tunable laser,

The Examiner admits that Tsushima et al do not disclose a system as defined in the original claim 1. In making this admission, however, the Examiner recites the entire claim (as being not taught by Tsushima et al) but that leaves in question whether the

Examiner is admitting that each and every element is not present, or only that the *combination* of elements is not taught. To avoid attributing to the Examiner an admission that is unduly encompassing, it is assumed that the Examiner's admission is that it is the *combination* that is not taught by Tsushima et al.

In light of such presumed admission by the Examiner, applicants respectfully submit that, indeed, none of the elements (at least in some of the independent claims) are not taught by Tsushima et al.

Specifically with respect to claim 38, it is respectfully submitted that the following elements are not found in Tsushima et al:

1. *Generating a set of serial packets by a tunable laser.*

   There is no generating of serial packets at all. To the contrary, the generating is of a plurality of packets in parallel. Moreover the parallel generation of a plurality of packets is by means of a the plurality of lasers, shown in FIG. 2a and in FIG. 6, and not by a tunable laser.

2. *Stacking said set of serial packets to form a first composite packet by a stacker.*

   There are no serial packets, there is no stacker, and there is no step of stacking to form a composite packet.

3. *Employing an optical crossbar switch of a first node of a core ring of said ring network to add said first composite packet into an empty time slot of a core ring of said network.*

   Although there is a crossbar switch in the reference, it is **not** part of a node of a core ring of the network (at least in part, since there is no ring). Moreover, the crossbar switch of the reference does **not** handle composite packets but, rather, handles what might be considered components of a composite packet.

4. *Dropping said first composite packet as a unit in a second node of said core ring....*

   Just as there is no adding in the reference of a composite packet in a ring, there is no dropping of a composite packet from a ring.

5. *Serializing the composite packet.*

   There is decomposing, in the reference, of information packets of different wavelengths into individual packets, but there no serializing of a composite packet at all.

6. *Distributing at least one packet of said received serial stream of packets.*

One can assert that there is distributing of packets in the reference, but it is not from a serial stream of packets.

To repeat, it appears that none of the steps defined in claim 38 are taught or suggested by Tsushima et al.

The rejection, however, combines the Tsushima et al reference with the Chlamtac reference which, according to the Examiner, stands for the proposition that the art disclosed interconnecting rings with bridges or switches. Accepting this proposition as to the teachings by Chlamtac does not, however, render claim 38 obvious because the entire notion of creating composite packets from a process of stacking serial packets is absent in the Tsushima et al and Chlamtac combination, the entire notion of composite packets that are moved about a network as a unit – until they are dropped – is absent in the Tsushima et al and Chlamtac combination, and the entire notion of unstacking the composite packet to create serialized packets is absent in the Tsushima et al and Chlamtac combination. Accordingly it is believed that claim 38 and the claims that depend thereon are not obvious in view of the Tsushima et al and Chlamtac combination of references.

Independent claim 48 is similar to claim 38 and, for the reasons above, is believed not obvious in view of Tsushima et al and Chlamtac combination of references.

Independent claim 49 defines, *inter alia*, the steps of serializing the parallel packets that form the composite packet that was dropped from a ring of the network, distributing the serialized packets to a subtending WDM system, and outputting those of the serialized packets that are not destined for distribution back to the ring of the network. None of these steps are found in the cited references and, therefore, it is believed that claim 49 is not obvious. Consequently, it is believed that dependent claim 50 is also not obvious in view of Tsushima et al and Chlamtac combination of references.

Independent claim 51 defines similar notions relative to dropping, serializing, and returning a portion to the ring network and, therefore, it is believed that claim 51 and the claims that depend thereon are not obvious in view of the Tsushima et al and Chlamtac combination of references.

Independent claim 55 focuses on the fact that packets of a set of serial packets are stacked to form a composite packet, the composite packet is added as a unit to a core

optical ring, routed as a unit through the ring, is dropped as a unit from the ring, and then serialized to for a set of serial packets. Since this is not found in either of the references, it is believed that claim 55 and the claims that depend thereon (claims 56-71) are not obvious in view of the Tsushima et al and Chlamtac combination of references.

In view of the above, favorable consideration of claims 38-71 is respectfully requested.

Respectfully,
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